

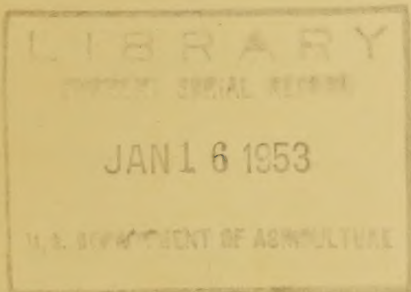
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CO-OP ELECTRIFICATION ADVISER TRAINING OUTLINE

204

DEMONSTRATION TECHNIQUES



REA

RURAL ELECTRIFICATION ADMINISTRATION

U.S. DEPT. OF AGRICULTURE

PURPOSES OF THIS OUTLINE

This is one of a series of outlines prepared by REA as an aid in planning and arranging training schools for co-op electrification advisers. Each outline deals with a power use subject or with some aspect of cooperative principles and practice or with a particular method or technique of getting information to people. These are the three principal fields in which electrification advisers need to be skilled. Each booklet contains both suggested subject matter and suggestions as to how the material might be presented, with an indicator of a suitable time schedule. The booklet is

thus useful as a guide to committees in charge of training schools, as an aid to the instructors, and as a subject matter manual that may be distributed to participants at the close of a training session for study and future reference. Subjects available or in preparation are listed below by title and number. It is suggested that committees planning such training schools keep in mind the need of training in all three types of subject matter and, insofar as practicable, make use of the outlines in a balanced combination.

LIST OF SUBJECTS

An ORIENTATION OUTLINE (unnumbered) covers all three fields of information. It is to provide the subject matter for an initial school that will give co-op officials basic background information and an understanding of the nature and scope of the educational job to be done.

NO.	POWER USE SUBJECT	NO.	CO-OP SUBJECT	NO.	METHOD OR TECHNIQUE
1	Farm and home Wiring	100	Value of Co-op	200	Getting News to Members
2	Farm Motors		Membership		(Newsletters and State
3	Water Systems and	101	Integrating Power		Paper Columns)
	Plumbing		Use and Co-op	201	Using the Radio
4	Electric Ranges		Education	202	Co-op Reports and Non-
5	Laundry Equipment	102	The REA Program		periodical Publications
6	Poultry Production		and Co-ops	203	Making Effective Talks
7	Refrigerators, Home	103	The Electric Co-op	204	Demonstration Techniques
	Freezers, Walk-ins		— What It Is	205	Methods and Results of
8	Small Appliances	104	The Co-op Movement		Adult Education
9	Dairying		— Here and Abroad		
10	Pig Brooding	105	Co-op Bylaws	206	Effective Meetings
11	Farm, Home and	106	Establishing Member		
	School Lighting		Ownership	207	Photography and Motion
12	Farm Shop	107	Assuring Member		Pictures
13	Pump Irrigation		Participation	208	Working with Newspapers
14	Garden Watering	108	Co-op Tax Status	209	Exhibits and displays
15	Electric Hotbeds	109	Annual Meetings	210	Working with Rural Youth
16	Elevating, cleaning	110	Co-op's Place in	211	Working with Community
	and grading farm crops		the Community		Organizations
17	Drying grain, hay, peanuts, etc	111	Cooperation Between Co-ops		
18	Heating, cooling, ventilating				
19	Cleaners, dish washers				
20	Kitchen planning				

UNITED STATES DEPARTMENT OF AGRICULTURE
Rural Electrification Administration
Washington 25, D. C.

Suggested Program and Procedure

DEMONSTRATION TECHNIQUES

The demonstration is a basic teaching technique, which is in great measure responsible for the tremendous improvements in farming practices made in this country during the last generation. It can be used to show farm people both why and how to use new devices and is thus one of the most valuable education methods available to the co-op electrification adviser -- particularly for power use work. During the course of his training, an electrification adviser will ordinarily witness many demonstrations. But the method is so basic to his work that a special training session on the subject is essential.

Suggested Procedure: The following outline (worked out jointly by REA and the Extension Service) shows how a group of electrification advisers might be given the basic instruction they need in planning and conducting demonstrations which are fundamental to a successful adult educational program. The outline is planned so that the instruction given will be related as closely as possible to the specific problems of the electrification advisers present. Maximum opportunity is provided for group discussion and for work sessions, so that the members of the group will learn by doing.

Discussion Leader: For maximum effectiveness of this session, it will be well to have as leader and instructor a person thoroughly experienced both in the use of demonstration techniques and in the conduct of group discussions or workshops. The best person for this role may be a member of the State Extension Service staff, or an experienced county agent or home agent. If you cannot locate a suitable specialist in your area, REA may be able to suggest someone.

Program Chairman: It will help if the leader is someone who has been close enough to rural electrification to be familiar with power use subject matter. If not, that can usually be made up by having as chairman of the day someone who is thoroughly familiar with the use of electricity by farmers.

Subject Matter Outline: A subject matter outline which may be useful to the leader and other persons on the program is a part of this manual. The subject matter also may be used by electrification advisers for further reference and further study.

Suggested Program and Procedure

DEMONSTRATION TECHNIQUES

Morning Session

<u>Time</u>	<u>Topic</u>	<u>Speaker or Leader</u>
9:00	<u>Opening remarks:</u> Introduction of guests and explanation of day's procedure.	Chairman (Statewide power use chairman or other director)
9:15	<u>Talk:</u> "Demonstrations Help You Work With People" The above talk emphasizes the fact that the electrification adviser's job is with people, describes briefly how people learn, and sets the stage for the rest of the day.	Discussion leader or other outside speaker (Extension Service; co-op director; public relations specialist)
9:30	<u>Group discussion:</u> "Demonstrations Can Help You in Helping People Solve Their Problems" Conducted by..... The purpose of this discussion is to get from the group problems which the participants consider most pressing in their power use and co-op education work with members and the community. Here is one way to do this -- 1) Ask each participant to take 10 minutes to write down what he considers his 4 or 5 most pressing problems as an electrification adviser. 2) Call on members of the group at random to read off problems they have jotted down. 3) Write each problem on a blackboard. 4) Keep a tally on the blackboard of the number of times each problem is mentioned. 5) Ask the group to keep these problems in mind through the material on demonstrations that follows. More use will be made of the list later on in the program. The most important thing at this time is to get group participation and to assure the group at the outset that the subject is going to be presented in terms of <u>their</u> needs.	Discussion leader (see preceding page for suggestions)

Suggested Program and Procedure (Cont.)

Morning Session

<u>Time</u>	<u>Topic</u>	<u>Speaker or Leader</u>
10:30	Intermission	
10:45	<u>Talk:</u> "Method Demonstrations Show How" This talk defines and discusses briefly the method or how-to-do-it type of demonstration, which is the basic demonstration technique.	Discussion leader
10:50	<u>Method demonstration:</u> "Tying the Under-writer's Knot" or similar topic. This demonstration is suggested because it has been found one of the most effective methods for training people to give demonstrations. If the committee prefers to select another topic, care should be taken to select a demonstration that involves teaching a simple skill. In the procedure which Extension Service recommends for a job instruction demonstration of this sort, the instructor: 1) Prepares the audience by discussing the job. 2) Presents the job by doing it himself and highlighting key points. 3) Tries out performance by having participants do the job themselves until they have mastered it. 4) Follows up with discussion and questions. Covering the first three of these points will consume the rest of the morning session.	Extension specialist; vocational instructor; county agent; home agent; REA specialist.
12:00	Noon recess	

Suggested Program and Procedure (Cont.)

Afternoon Session

<u>Time</u>	<u>Topic</u>	<u>Speaker or Leader</u>
1:30	<u>Motion picture on demonstrations:</u> (A particularly good film for this purpose would be "Welding Comes to the Farm," distributed by Lincoln Electric Co. through dealers or on request to 12818 Coit Road, Cleveland 1, Ohio. This shows an extremely well-presented method demonstration. This film or another suitable one may be available from your State film library.)	
2:00	<u>Discussion of Method Demonstration:</u> The instructor now covers the discussion phase of the method demonstration begun at the morning session. It is important to bring out ideas from the participants as to subjects co-op advisers might use for method demonstrations.	Demonstration instructor and discussion leader.
2:30	<u>Talk: "Result Demonstrations Offer Proof"</u> This talk defines and discusses the result demonstration, which ordinarily grows out of a method demonstration and which the Extension Service defines as "A demonstration to show locally the value of a recommended practice."	Extension specialist; county agent; home agent Discussion leader.
2:45	<u>Talk: "A Result Demonstration That Clicked"</u> Speaker will tell how a demonstration (preferably of the field type) was conducted and describe results, follow-up, etc. Use of slides or visual material is recommended. As an example of the type of demonstration that might be described, printed material is enclosed describing the work on stack hay drying recently done in Colorado by the State College, REA and co-ops. Committee will want to select a similar local example.	Someone who has directed an effective result demonstration -- probably an Extension specialist; county agent; home agent; or REA specialist.

Suggested Program and Procedure (Cont.)

Afternoon Session

<u>Time</u>	<u>Topic</u>	<u>Speaker or Leader</u>
3:00	<u>Discussion of Result Demonstration</u> , led by	Discussion leader
3:30	Intermission	
3:45	<u>Talk: "Planning the Use of Demonstrations in Co-op Education Programs"</u> Discussion follows.	Demonstration specialist (Discussion leader or other specialist)
4:15	<u>Talk: "The Co-op Approach to Power Use Demonstrations"</u> Discussion follows.	Co-op director or manager; co-op specialist from college or REA
4:45	<u>Introduction to demonstration work session.</u>	Discussion leader

Before adjournment for the day, it will be well to explain to the group that the next morning will be devoted to a work session, in which the participants will have a chance to work out their own demonstrations to present before the group.

Suggested procedure:

- 1) Bring out blackboard, containing problem list made during morning session.
- 2) Break group into 4 or 5 small working groups.
- 3) From the list of problems on the blackboard, assign each working group a problem. Select problems which got most frequent mention, and try to assign each problem to a group that expresses particular interest in it.
- 4) Ask each group to work out a simple demonstration that it believes would be effective in meeting this problem.
- 5) Suggest that each working group assemble during the evening to designate a leader and work out plans for a demonstration to be given to the entire assembly the following morning.

5:15 Adjournment for day.

Suggested Program and Procedure (Cont.)

Second morning

<u>Time</u>	<u>Topic</u>	<u>Speaker or Leader</u>
9:00	<u>Review of previous day</u> Short question period	Discussion leader (Same as on previous day)
9:30	<u>Demonstration Work Session, conducted by</u> Suggested procedure: 1) Call on each of the working groups selected the night before to present or describe the demonstration it has worked out to meet a specific electric co-op member education problem. Every member of the group should participate in the presentation, if possible. 2) Naturally, not all the materials needed for some of the demonstrations will be available. Encourage groups to use ingenuity and improvise and simulate as necessary. 3) After each presentation, call for questions and comments from the floor. Try to create an atmosphere of friendly, constructive criticism. Encourage groups to be critical of their own demonstrations. 4) Designate a recording secretary to record information about each demonstration and take notes on major points of discussion. This summary can be provided to the participants later for reference and study.	Discussion leader
12:00	Summary and Conclusion	Chairman or discussion leader

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END OF PROGRAM. SUGGESTED SUBJECT MATTER FOLLOWS.

Suggested Subject Matter

GENERAL TOPIC: "DEMONSTRATION TECHNIQUES"

A. Introduction.

1. As electrification adviser, you will probably use every channel available for getting information to members on --

- a. Power use.
- b. Co-op principles and practices.
- c. Your own co-op.

2. You will do this --

- a. To stimulate interest and participation in your own co-op.
- b. To make the co-op stronger through developing member loyalty.
- c. To make its services more beneficial to the individual families served.

3. The demonstration technique is one of the most valuable methods for getting your story across, particularly in connection with power use.

4. In telling your power use story, demonstrations also provide ample opportunity for member education on cooperation, facts about co-op growth, its importance to community welfare, and other related information.

B. Demonstrations Help You Work With People.

1. Any demonstration conducted or sponsored by the electric co-op will have as its purposes:

- a. To present facts or methods to help the farmer or farm homemaker select electrical equipment or methods best suited to his or her particular needs.
- b. To help them use that equipment or method most efficiently.

Suggested Subject Matter (Cont.)

2. To do this well, you must familiarize yourself with the people who make up the membership of your co-op.

a. Determine their learning habits and abilities.

(1) Young people learn more readily than older people.

(2) After 35, there is a decline in speed of learning but not in learning capacity.

(3) After 40, there is a very slight decline each year in learning capacity, until it reaches the level it was in middle teens.

(4) Factors in decline in speed of learning:

(a) Less acute vision.

(b) Less acute hearing.

(c) Slower reaction time.

(d) Greater reluctance to learn and increased fear of failure.

(5) It is important to recognize these factors and use methods that will overcome them.

b. Find out how they are accustomed to get information.

(1) An Extension Service study of a group of farm families adopting improved practices showed that:

(a) 18 percent got their information through individual contacts -- farm and home visits, office calls, correspondence, etc.

(b) 26 percent got their information through group contacts -- meetings, schools and study courses.

(c) 37 percent got their information through mass media -- news stories, radio, exhibits, bulletins, etc.

(d) 19 percent got their information indirectly -- from someone who had received it through one of the other media.

(2) Extension experience shows that response to information varies in proportion to the number of media used. For example:

Suggested Subject Matter (Cont.)

- (a) The percentage of farm families responding to information increases rapidly as the number of contacts increases from 1 to 5 or 6.
 - (b) If given the same information in 5 different ways, approximately 7 out of every 8 families receiving Extension information will respond to it.
 - c. Other factors in familiarizing yourself with the people of your co-op:
 - (1) Are they experienced or inexperienced in the cooperative way of doing business?
 - (2) Are they new or old users of electricity?
 - (3) Who are the leaders on whom most rely for advice?
 - (4) Do they group together along national lines?
 - d. MOST IMPORTANT OF ALL, find out their interests, needs and problems. Few people will study or master subject matter not of direct personal concern to them.
- C. Demonstrations can help you in helping people solve their problems.
1. The program outline (see preceding pages) suggests a method for developing a list of pressing consumer problems through group participation. For the guidance of the discussion leader, following is a list of some of the problems that might be anticipated. At a later stage in the program, it is suggested that these problems be assigned to working groups to develop demonstrations that can be for presentation to the entire group. Here is the list:
- a. Poor functioning of specific pieces of equipment.
 - b. Bills too high.
 - c. Too many outages.
 - d. Meters inaccurate.
 - e. Inability to get service on equipment.
 - f. Too many fuses blow out.
 - g. Wiring costs too much.
 - h. Motors run hot.

Suggested Subject Matter (Cont.)

D. Method demonstrations show how.

1. Definition: A demonstration that concentrates on how to do a specific task. To be most effective, of course, it must also explain the what and why unless these are already known.

2. Showing people how to do something is a sure-fire method for passing on information. Main values of the method demonstration are that:

- a. It presents your subject in a way easy to understand.
- b. The observer frequently takes part in the activity.
- c. The observer may use more than one "sense" to learn.
- d. It gives the demonstrator an opportunity to arouse interest in the subject and to stimulate action.

3. Planning and conducting a method demonstration on "Tying the Underwriter's Knot." (This material is based on USDA Extension Farm Labor Circular No. 28 "How to Improve Job Instruction.")

- a. Important steps to take before you present a demonstration.

(1) Have a plan to follow.

- (a) Decide on the job to be done and who should do it; how much skill you expect of the worker; and how soon.
- (b) Consider how to explain the WHY of the job, and how to interest the worker in it.

(2) Have a job break-down.

- (a) Think through the job to be taught the worker.
- (b) List the important steps (what you do)
For example --

Untwist and straighten,

Make right-hand loop,

Make left-hand loop,

Put end through loop,

Pull taut.

Suggested Subject Matter (Cont.)

- (c) Select the key points (how you do them).
For example --

Six inches,
in front of main strand,
toward - under - behind,
from back to front,
ends even - knot snug.

- (3) Have equipment and materials ready.

- (a) Put equipment in good working condition.

- (b) Be sure there are enough materials and supplies.

- (4) Have work place properly arranged.

- (a) Locate things conveniently for use.

- (b) Place them just as you expect the worker to use them.

b. Presentation of the demonstration.

- (1) Prepare the worker.

- (a) Put him at ease - get his complete attention.

- (b) Explain what the job is - why it needs to be done.

- (c) Get him interested in wanting to do it right.

- (d) Have him stand beside you facing the job.

- (2) Present the job.

- (a) Go over the job one step at a time.

- (b) Tell, show and explain each step.

- (c) Stress the key points -- those things that will improve quality, prevent accidents, make work easier.

- (d) Don't try to cover too much at one time.

Suggested Subject Matter (Cont.)

(3) Try out performance.

- (a) Have worker do the job for you.
- (b) Have him show you and tell you why each step is done.
- (c) Have him explain the key points.
- (d) Ask him questions and correct any errors.
- (e) Continue until you know what he knows.

(4) Follow-up.

- (a) Put worker on his own.
- (b) Tell him to whom he should go for help.
- (c) Encourage him to ask questions.
- (d) Keep in touch with what he is doing.
- (e) Be ready to help.

4. Suggested subjects for method demonstrations on an electric co-op.

- a. How to construct a hay drier.
- b. How to use a hay drier.
- c. How to use an electric range.
- d. Planning farmstead wiring.
- e. Planning a plumbing system.
- f. How to use an electric welder.
- g. How to use a refrigerator.
- h. Care of equipment -- how to clean a motor, for example.
- i. How to prepare food for freezing.
- j. How to construct equipment at home.

Suggested Subject Matter (Cont.)

Suggestions for Describing a Method Demonstration on Water System

(Note - This is a discussion of how to describe a method demonstration. It is not a description of the demonstration itself.)

1. Select typical family and outline that specific family's needs, considering future as well as present requirements.
2. Sketch floor plan of the house (use large blackboard if possible) and show relative location of farm buildings in which other installations may be needed now or later.
3. Assemble equipment. You may want to have samples of various pumps, storage tanks, pipe, sinks, laundry equipment, bathroom fixtures, etc. If your demonstration is for a small group and it is not practical to assemble samples, you probably could obtain large drawings or cardboard-mounted photographs of the various types of large equipment and restrict actual samples to small items such as pipe, faucets, shower heads, etc.
4. With the specific family and its needs in mind, outline your presentation, showing how that family's needs or situation require a certain size storage tank, kind and size of pipe, location of laundry facilities, kitchen sink, bathroom, etc. Discuss alternate possibilities (if any) and appeal for audience participation -- their opinions and reasons for them.
5. On your blackboard sketch, draw in the various installations, including connecting pipes, as you handle each item.
6. Be sure to evaluate the water system in terms of labor and time saved, family satisfaction, increased farm production, reduction of loss, etc.
7. Include information on your cooperative, its growth, by talking about peak loads and using off-peak periods for heating water, etc. You can also use this in bringing out importance of member cooperation.

E. Result Demonstrations offer proof.

1. Definition. A result demonstration is a demonstration conducted by a farmer, homemaker, boy or girl, under the direct supervision of a professional worker, to show locally the value of a recommended practice. Often result demonstrations must be conducted over a considerable period of time. For instance, a result demonstration of an irrigation system would need to run at least through a growing season.

Suggested Subject Matter (Cont.)

2. Reasons for conducting result demonstrations:

- a. To prove the effectiveness of a given method through evidence that can be seen or heard or felt, and to establish confidence in that method.
- b. To obtain local acceptance by showing results under actual local conditions.

3. Factors to consider before using result demonstrations as a means of promoting a given method:

- a. The evidence supporting the chosen method must be clear to your observers, pointing up distinctly the differences between the new method and the old method, etc.
- b. The plan of demonstration should be simple and easy for the observers to follow.
- c. Measurement of results should be easy to make and convincing. In result demonstration of a hay drier, farmers will be quick to notice the better color of mow-cured hay compared to field-cured, and the fact that the leaves hold to the stems when dried in the mow. Support this with cost and time figures, and increased cash and feed values.
- d. Consider these points in selecting a farm cooperator:
 - (1) Should have a need and desire for the demonstration.
 - (2) Should be cooperative, conscious of community responsibility, willing to have people see, and be dependable.
 - (3) Should have time, space and facilities.
 - (4) Should have a location easily accessible to visitors.
 - (5) The farm or farm home should be typical of your area -- not the best, not the worst.

4. Subjects suitable for electric co-op result demonstrations might include:

- a. Irrigation system -- comparison with non-irrigated plot.
- b. Value of a hay drier.
- c. Garden watering.
- d. Effects of wire size on electrical equipment.
- e. Poultry house lighting.
- f. Electric brooders.
- g. Well-planned kitchen, utility or workroom.

Suggested Subject Matter (Cont.)

- h. Food preservation in home freezer.
 - i. Laundry equipment.
 - j. House ventilators.
5. Essentials for a convincing result demonstration.
- a. Keep records on savings on cost, time and labor, and on improvement in quality of production. It may be advisable to measure power used by means of a test meter placed on the equipment being demonstrated.
 - b. Summarize results.
 - c. Use results. Unless they come to the attention of others their value is minimized. Publicize them, use them in reports, news items, articles, and wherever possible, prepare visual aids -- pictures, tables, charts, and samples -- for use in member contacts.

Suggestions for Conducting a Result Demonstration on Garden Watering

1. During late winter or early spring, select a family interested in gardening, and begin making arrangements then. Be sure family has a good source of water.
2. See that equipment is installed to do the job correctly.
3. Enlist aid of local help -- a plumber for essential supplies, the County Agent for garden advice and care, etc.
4. Install a check meter for records of current consumption.
5. Keep records of power consumption and quantity of water used for an estimate of cost. Measure results of garden -- perhaps through comparison with garden plot not watered during the growing season. Inspect the garden at various times through the season. Take pictures, select samples for quality. For best demonstration, a small portion of the garden would not be watered as a check on the watered part.
6. Evaluate results in terms of the area -- better quality produce, greater quantity, economical source of food supply for canning, freezing, or otherwise preserving for winter use.
7. Follow-up -- publicize information through news stories, newsletters, meetings, etc. Arrange for a group of interested gardeners to visit the garden at peak of the harvest season.

Suggested Subject Matter (Cont.)

F. General Tips for Method and Result Demonstrations.

1. Be guided by the problem of greatest importance to the largest number of people in choosing your subject.
2. Time of the demonstration should be related to seasonal farm or home activities if seasonability is related to the use or interest.
3. When a meeting is held in connection with a demonstration, be sure plenty of time is allowed for discussion.
4. Enlist others to help plan arrangements and announcements, and to participate in supplying materials and services for the demonstration.
5. Keep co-op employees as well as the board members informed about your plans; invite them to your demonstrations.
6. Include co-op information, as well as power use subject matter, in your text.
7. If you give your method demonstration indoors, make sure there are adequate lighting, space, and facilities to do a good job.
8. When you are planning an indoor method demonstration make certain that the platform is very well lighted and that the demonstration center is spotlighted.
9. Wherever possible arrange to give your method demonstration in front of a solid colored background. The color for that background will be determined by the color of the equipment used -- if it is light, use a dark background and vice versa.
10. Make certain that you have good sound amplification if the group is large. It is of prime importance to the success of your demonstration.
11. Use slides, filmstrips and motion pictures wherever possible to supplement the demonstration and help dramatize your presentation.
12. Whenever you use the blackboard, use different colored chalks to help emphasize the main points.
13. Enlist members of your audience to participate -- making notes on blackboard, handling pieces of pipe or nails or wire or other equipment. This helps hold interest of the audience and probably will result in more take-home information.
14. If you use charts or photographs to supplement your demonstration, make certain that they can be seen easily by persons farthest from the platform.

Suggested Subject Matter (Cont.)

15. Use humor wherever possible in your presentation, make your presentation as informal and personal as you can.

HELPS AVAILABLE FROM REA

Planning Demonstration Kitchens. Rural Electrification News, February-March 1948.

What Co-op Members Need to Know. Rural Electrification News, February-March 1949.

Telling the Co-op Story. An educational handbook for rural electric co-ops, Miscellaneous Publication 685, Rural Electrification Administration, U. S. Department of Agriculture.

